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ABSTRACT

Federal guidelines and pressures for accountability make it essential that more and better planning management information be made available concerning the delivery of day care services. With the existence of a fully developed and operational system, planning and management of resource allocations can be made that can lead to an improved quality of service offered to more individuals for the same amount of money. In view of the growing concern by society for the conservation of financial resources, a flexible and responsive system for accomplishing accountability is needed. The data included in the system should provide not only for the planning and management needs of the user, but also for those information needs imposed by guidelines and regulations. With the availability of such a system, those individuals responsible for planning and administering the delivery of day care services can have readily available the supporting information required to make "rational" decisions for planning and/or evaluation purposes. (Author/WM)

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A

PLANNING AND BUDGET MANAGEMENT SYSTEM

FOR DAY CARE

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During the past several years, the dollars allocated to day care services by both Federal and State governmental agencies have increased significantly; for example, the Commonwealth of Pennsylvania, through Title IV-A, has increased allocations to day care services from three (3) million dollars in 1968-69 to sixty and one-half (60.5) million dollars in 1972-73. This sharp increase in expenditures has been used primarily for expansion of the availability of day care services offered (i.e., to open new centers and family day care homes) and to increase the types and level of services offered. However, this rapid growth has not been without its attendant problems. It has been difficult, if not impossible, to develop comprehensive and flexible planning and management systems sufficiently responsive to the needs of those responsible for administering the allocation of resources for day care services.

The determination of the optimal allocation of resources, both financial and human, is not a simple undertaking. In order for any organization to allocate resources effectively, information and data should be readily available to serve as a basis for making substantive decisions. Decision-making and accountability with respect to the provision of day care can be greatly enhanced if the following are easily accessible (preferably from one main source) for planners:

1) data describing specific services offered, number of children and families served, location of services and dollars budgeted and being expended;

2) budget procedures to be applied in a standard manner throughout the system (e.g., budgets submitted for funding should indicate those funds that are going to specific centers);

3) an equitable, uniform and simple procedure for determining eligibility of children to preclude vulnerability to criticism;

4) current enrollment figures for day care services; and

5) the objectives of day care services, concisely defined, and the relationship of level of attainment to required expenditure.

The need for attention to the items cited above, as well as to other problems which a system might address, is well-documented in the Report of the HUD/MC Child Care Technical Assistance Project issued in July 1972.[1] If the foregoing information is maintained in as accurate a manner as possible, expenditures can be related to benefits and to the level and type of service being offered on an ongoing basis.

It is recognized that external pressures from the Federal level are being applied. Specifically, new guidelines relating to the determination and redetermination of eligibility have been issued. These guidelines state that

> the State agency must make a redetermination of eligibility of each family and individual receiving service at the following intervals: (1) quarterly for families and individuals whose eligibility is based on their status as current applications for or recipients of financial assistance. (This redetermination may be accomplished by comparison of financial assistance payrolls or eligibility listings with service eligibility listings.) (2) within 30 days of the data that status of the family or individual as a current applicant for or recipient of financial assistance is terminated. (3) within 6 months of the date of original determination of eligibility for families and individuals whose eligibility is based on the determination that they are likely to become applicants for or recipients of financial assistance. (4) within 3 months of the effective date of this regulation for families and individuals receiving service on the basis that they are former applicants for or recipients of financial assistance.[2]

These guidelines, along with the Federal pressure for "accountability," make it essential that more and better planning management information be made available concerning the delivery of day care services. Conceivably, with the existence of a fully developed and operational system, planning and management of resource allocations can be made that can lead to an improved quality of service offered to more individuals for the same amount of money. In view of the growing concern by society for the conservation of financial resources, a flexible and responsive system for accomplishing accountability is needed.

STATEMENT OF THE PROBLEM

Simply stated, the problem is one of a need for a system that provides the mechanism by which "rational" decisions can be made concerning the allocation of resources to various segments of day care services. Such a system should:

a) define the data to be gathered in such a way that they are collected in the same manner, from the same source and at the same level of the organization;

b) provide procedures for collecting and maintaining the data on a regular and recurring basis;

c) provide that changes can be made in the data being collected and stored in order that the system be flexible and responsive to the varying needs of the user;

d) provide for the retrieval of data from the system on a recurring as well as on an "as needed" basis.

The data included in the system should provide not only for the planning and management needs of the user, but also for those information needs required by guidelines or regulations (e.g., the Federal guidelines concerning eligibility of children in day care should be an integral part of the system.)

With the availability of such a system to provide current factual data concerning the operation of the organization, those individuals responsible for planning and administering the delivery of day care services can have readily available the supporting information required to make "rational" decisions for planning and/or evaluation purposes.

A system which provides the capabilities outlined above is in reality a "management information system" (MIS). Since the term MIS has been widely used and abused, an operational definition is developed below.

WHAT IS MIS?

To paraphrase Koontz and O'Donnell (1964), the task of management is to create for a group the internal environment that is necessary to accomplish the group goals. The objective function of the manager is to maximize the group's goal satisfaction with a minimum expenditure of time, money, unpleasantness, or other unsought consequences. In order to coordinate group activity toward optimization of the objective function, the manager plans, organizes, staffs, directs, and controls.[3]

The ultimate management information system must provide the manager with all of the information that he needs to manage efficiently and effectively (i.e., to perform the five functions listed above). Understandably, this ultimate system can never exist, since it is not possible to provide all the information needed because, in many cases, the kind of information required for a specific decision is not known even to the decision-maker. Thus, one must accept the fact that a management information system must occur in a less than perfect form.

A management information system is, then, in the practical sense, a system which attempts to provide management with as much information as is feasible and desirable at a particular point in time in order to assist management in performing its function.

MIS is not an easily definable or fixed system which occurs in the same form for all organizations; rather, it is a system that is constantly undergoing change and providing more, better, or diversified information, as may be required by the organization. There is not a specific point at which a series of unrelated sub-systems become a management information system. Perhaps, more specifically, a management information system exists with the awareness and acceptance of the goals of the information being provided and the willingness, on the part of the decision-makers, to coordinate all efforts toward that goal.

Such management information systems may be manual or automated; the information may even be stored on organized scraps of paper, or in a fully integrated, computerized data base, using random access storage.

As was previously stated, a management information system is a concept; it is not a description of a particular data-based system. In the remainder of this paper, discussion will be centered on the more widely accepted version of a management information system: the automated data base utilizing the computer for update and access.

THE CHARACTERISTICS OF THE SYSTEM

What is desired now is a more detailed operational definition pertaining to the characteristics of the planning and management system described. The first characteristic of an information system is that it be based upon an analysis of the information flow for all of the functional areas of the system under study. This analysis will determine the following:

1) what information is presently available;

2) what information is available, but not needed;

3) what information is not presently available, but needed;

4) where the necessary data to provide this information can be found;

5) how the data should flow through the system;

6) where and in what form or units the data should be kept;

7) who should be responsible for providing the original data.

Such an analysis can provide the foundation of knowledge necessary for the creation of a sound information system.

Secondly, an information system must be founded upon a fully defined data base. Ideally, this data base will be fully integrated; i.e., each individual submodule fits with each other submodule in such a way that any specific datum entering the system from one source can be stored in one place, with access to this datum available to all other submodules of the system. However, that the system be fully integrated is not a requirement; and, in fact, in actual practice, it is a difficult objective to accomplish. What is imperative is that the data be concisely defined and organized in the data base and that the relationships between the data from various operational systems be clearly distinguishable.

The determination of what data to retain in the data base has become a paradox for information systems designers. As John Gwynn, Associate Director of Project INFO, states, "since it is impossible to state how information is going to be used, it is likewise impossible to determine what information is most useful in making a decision. Now that is the crux of the problem."[4]

There is no easy solution to the problem. If one attempts to find such a solution, he runs the risk that his efforts will prevent him from attacking the real problem of defining and organizing the data base with the data which are traditionally accepted as being required. If such a data base is built with the knowledge that it is incomplete, and if the designer is careful to design the system to be open-ended, the addition of data which are found to be required can be facilitated. As was stated earlier, a management information system is an evolving concept rather than a specific design for a system.

George W. Baughman described the basic technical features which should be present in a management information system:

> The system should incorporate basic technical features that are compatible with management needs. For example, such features as: (1) common data bases, where each contributor enters the data he is best able to supply with no redundancy of prime sources, (2) common coding schemes for related data identifiers, (3) integrated systems design, so that parochial views are not permitted to deter logical relationships between separate processes, (4) timely processing and availability of data, (5) few judgment decisions to get data into the system (6) consistency in reporting through the use of agreed upon data sources and points in time, and (7) reliability, in that the systems are balanced, edited, and controlled in a way that assures considerable protection to the suppliers (in that they will be prevented from making major errors) and to the users (in that the data will be the best available).[5]

NECESSITY FOR PLANNING THE SYSTEM

As is evident from the above discussion, such a system does not evolve naturally as a part of the growth of an organization or agency. Obviously, the system, if it is to serve the needs of management, must be well-planned. Such a planning process must consider the results which are desired from the system as well as the data which must be stored in order to produce these results. The costs required to gather, edit, and store unnecessary data; or, conversely, the opportunity costs of not having the proper information available, are high.

Among the many factors which this planning process must consider are:

1) the specific data items that will be stored;

2) the provision for addition of new data items and the deletion of unnecessary data items as the information needs of the organization change;

3) the flow of data through the system;

4) the responsiveness of the system to requests for information;

5) the assurance of accuracy of data within the system;

6) the optimal use of storage methods to organize the data so as to eliminate unnecessary redundancy and to lower the cost of entering and retrieving data;

7) the best method and source for gathering the data;

8) the delegation of responsibility for maintaining the various data; and

9) the determination of priorities for implementation of the segments of the system.

The development of an information system requires the commitment of top management in order to assure that participation within the planning process is meaningful.

A PLANNING AND BUDGET MANAGEMENT SYSTEM

The planning and budget management system described herein is addressed to developing that source of data which can readily be used by planners of day care services. It is a modular system to allow for a phased development with minimal interruption of other management duties at all levels. Three specific phases are presented with each phase being self-contained and with specific products generated at the end of each phase.

The described system is innovative as a tool for use in planning and management of the delivery of human services. It may be the first system to be developed that addresses both the cost and the output of a human service activity which attempts to relate these two in such a way that cost/benefit analysis can be undertaken. With the data base and retrieval capabilities inherent in the system, it should be possible to plan in a rational manner the allocation of resources to the various demands placed upon the day care service system.

THE SYSTEM STRUCTURE

The planning and budget management system would be broken down into the following modules:

1) Children and Family;

2) Facilities;

3) Financial;

4) Program;

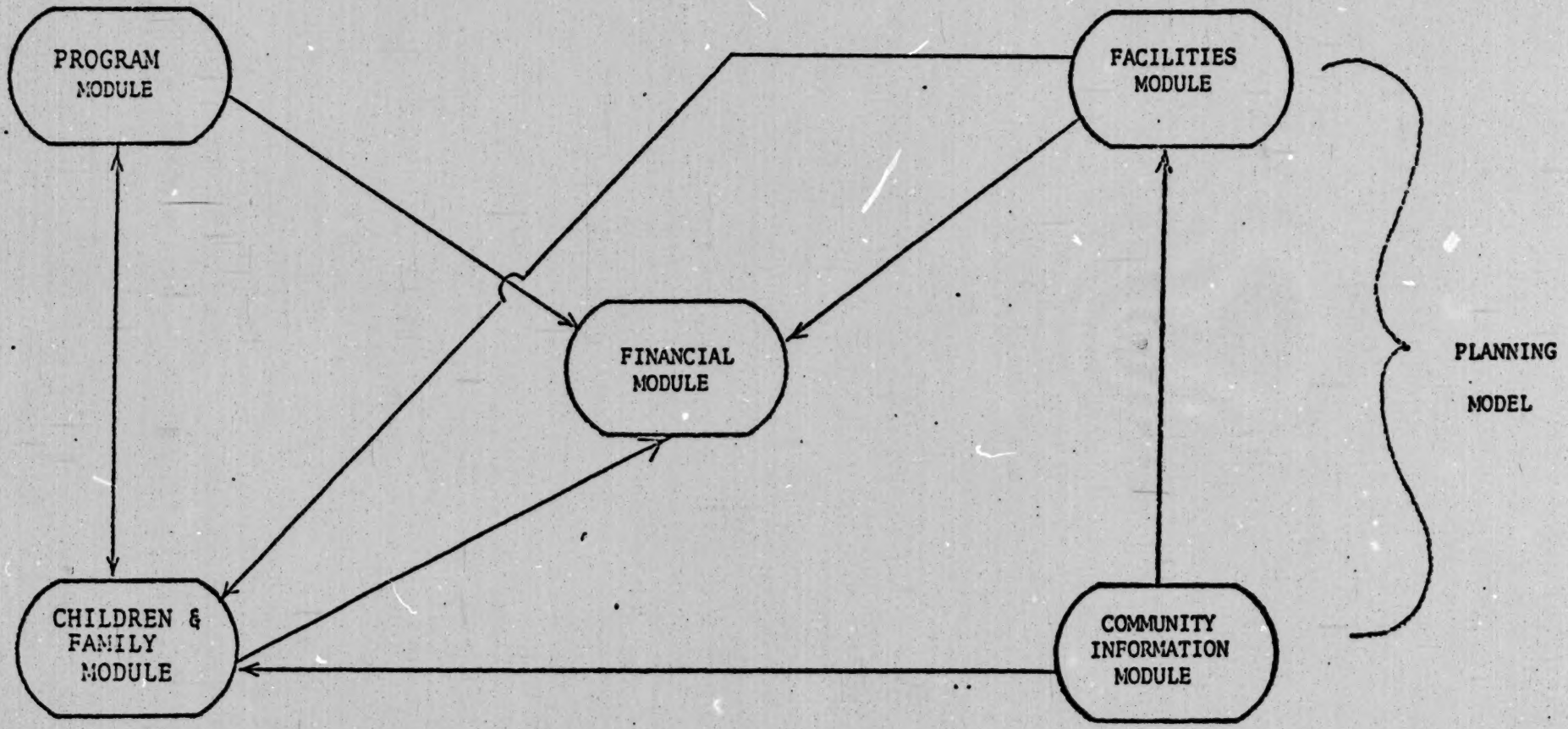
5) Community Information.

Each of the modules is self-contained and may be used alone to provide specific types of outputs. However, the system is an "integrated system" in that data from one module may be used with data from other modules to provide information of a much more sophisticated nature. Thus, the integrated nature of the system allows for the entry of data from one source to be stored in one place and also to be usable in combination with data from any other module. Unnecessary redundancy within the system is eliminated in this manner. Figure 1 presents a diagram of the total integrated system.

In addition, upon completion of the data base and planning and management system, a planning and resource allocation simulation model of a day care delivery system could be constructed. Using such a model, the planner could test alternative strategies using data from the data base and algorithms that describe the interaction of variables within the system. Models of this nautre have been constructed and are operational in the area of higher education (Weathersby, 1967;[6] National Center for Higher Education Management Systems, 1971;[7] Judy and Levine, 1965;[8] Byers, 1972[9]).

FIGURE 1

INTEGRATED SYSTEM



THE SYSTEM FLOW

There are five major functions which should be provided within the described system design:

1) an efficient method of data gathering;

2) a strong edit and control of the data entering and being stored within the data base;

3) the ability to add, delete, or change any datum within the data base;

4) clear and concise reports for regular information requirements;

5) a general retrieval that allows requests for subjects which meet any specific combination of characteristics.

These characteristics are illustrated in Figure 2.

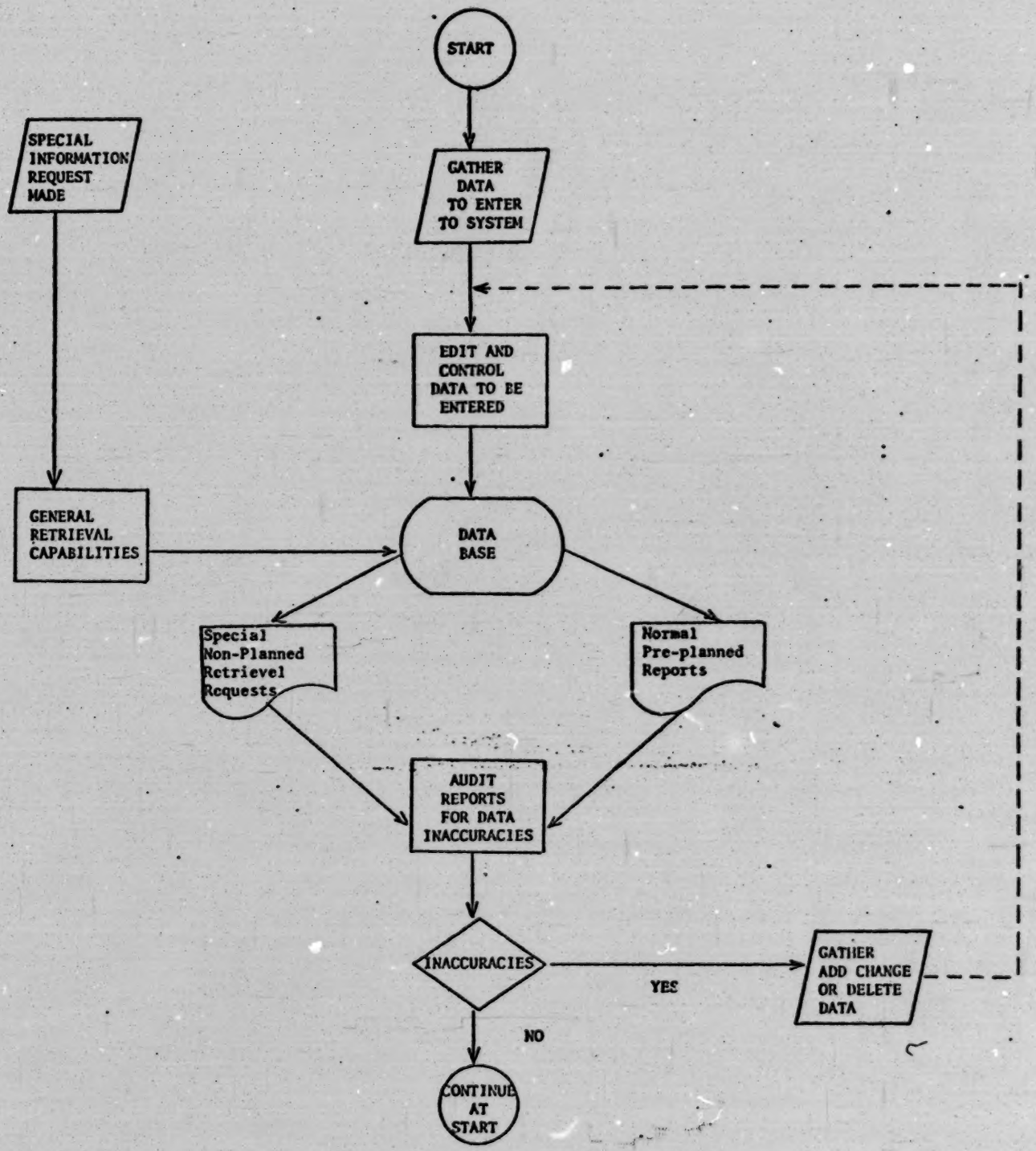
The need for a reliable edit and control of data and a general retrieval capability cannot be overemphasized. Systems not possessing these characteristics will, at best, provide mediocre results. Without a sound edit and control, the accuracy of the entering data is questionable. Further, even if all the necessary data required were to be stored accurately, the system may be unresponsive to managements' needs unless a simple method for obtaining special required data combinations is available. If every request for nonscheduled information required that a programmer write a report program to obtain this information, the response of the system would be so slow that it is unlikely the information would still be needed. The users would soon give up trying to get anything from the system, thus rendering the system ineffective, and, for all intents and purposes, producing a meaningless management tool.

THE MODE OF OPERATION

The system as described is a computer-based, interactive system designed and programmed to operate in either a time-sharing or batch mode, using a terminal and a time-sharing computer service. This method is recommended because it provides for ready access to the system without a large investment in equipment. An estimate of the yearly cost for the operation of such a system after it is implemented is given in Appendix A.

FIGURE 2

THE SYSTEMS FLOW



THE SYSTEM MODULES

There follows a discussion in some detail each of the modules for the Planning and Budget Management System. Presented below is a brief description of the module, possible data items which might be gathered for the module, and possible outputs that can result from the data gathered.

It should be pointed out that the following discussion presents only tentative data items and outputs. In order that the system be responsive to the needs of those individuals involved in the delivery of day care, it is necessary and desirable that a complete systems design take place. Such a design is provided for in the initial phase of the project. As an output of this design phase, such items as the specific data to be included in each module, the data flow, the output reports to be generated, and the definitions for all data items to be included are presented.

CHILDREN AND FAMILY MODULE

The basic purpose of this module is to obtain pertinent information about the children and families served that can be used to assist in the determination of eligibility. The data gathered would be limited to Title IV-A eligible families. In addition, this information can be used to determine the enrollment by age within a given center, prime contractor, service area, or region.

The data included in the module are descriptive of the family and children served. Among the kinds of data which might be included in the module are:

-parents' name(s)

-parents' address

-identification number (welfare case number)

-type of services for which parent is eligible

-type of services in which parent(s) and/or child are participating

-date of last eligibility determination

-enrolled children

-name(s)

-date(s) of birth

-center(s) in which enrolled

-special type(s) of service (Infant/Toddler, Special Needs, etc.)

-date(s) enrolled

-schedule(s) of enrollment (days, hours/day).

An example of a form to gather this type of data is given in Appendix B.

The above data can be supplemented with data concerning the services required by the family and resultant measures of effectiveness with which these services assist the family. In this manner, this system can have application beyond the limits of day care services alone and can form the basis for a total welfare information system.

Possible items to be obtained from this module are:

-enrollment lists for each center

-enrollment hours served

-a check list for those individuals by area who require a redetermination of eligibility

-enrollment statistics by various categories or levels of service related to such things as age, families served, special needs, and type of service for which family is eligible.

FACILITIES MODULE

The purpose of this module is to gather information concerning centers, prime sponsors, and sub-contractors in the day care system. This information is descriptive in nature and relates only to operations funded by Title IV-A. As is the case with all other modules, the addition of non-Title IV-A information will require only that different data-gathering procedures be used.

It would be necessary to relate the centers with a given sub-contractor and/or prime sponsor and region within the day care system. In this way, it would be possible to aggregate data at any level above the center level within the system. A possible method to attain this organization is to use an identification number that is sub-coded for each of the various levels of organization involved. Figure 3 presents a schema of the possible organizational levels currently present in day care in the Commonwealth of Pennsylvania as an example.

Possible data to include in the Facilities Module are:

Data for the prime sponsor and/or subcontract agency

-identification number

-name of agency

-phone number

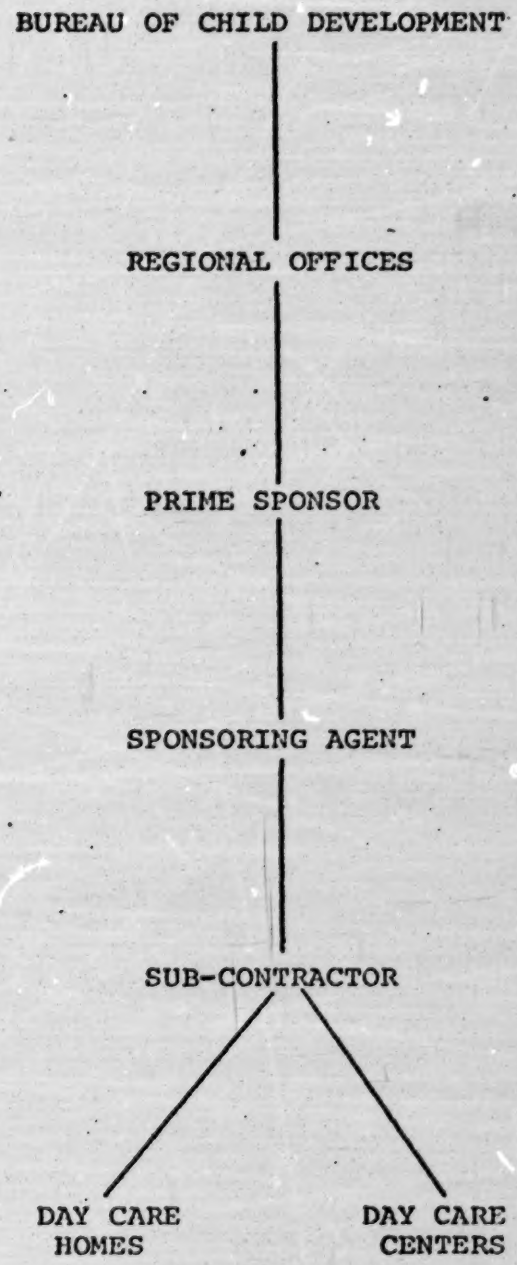
-type of agency (prime sponsor, sub-contractor)

-region

-county

FIGURE 3

ORGANIZATION LEVELS FOR DAY CARE



-contact individual

-staffing by category

-number of centers operated

-number of family homes operated

Data for centers

-identification

-address

-phone number

-director's name

-capacity in hours/day by type child served

-type of facility

-staffing by category

-schedule of services.

Examples of forms which might be considered for use in gathering this data are found in Appendix B.

Among the items which can be obtained from this module are:

-listing of centers and addresses within a given area

-capacity of centers

-staffing patterns across the state

-capacity by type of service offered

-location plot of services available

-information concerning need for additional services in what locations

-information concerning the existence of excess capacity in given centers.

In addition to the above, an attendance summary can be gathered monthly for each center. This summary can be used in relation to the enrollment and facilities data to determine such information as:

-capacity-to-enrollment ratios for a given period

-enrollment-to-staff ratios by various type or level of service

-enrollment turnover

-waiting list status

-summary data concerning applicants declined

-child hours served during the period.

An example of a possible attendance summary form is illustrated in Appendix B.

FINANCIAL MODULE

The Financial Module is central to the entire system, since it is in this module that the budget and the expenditures are gathered. This financial data can be used in conjunction with data present in each of the other modules to provide valuable cost-benefit information to those responsible for planning for day care services.

The financial data are gathered and stored in two forms. The first form is that of a traditional accounting system, i.e., expenditure grouping by such categories as personnel, fringe benefits, and travel. The second form is that of a Planning and Programming Budget System (PPBS), in which budget and expenditures are gathered by the type of program for which they are allocated. The programs are representative of the major goal areas toward which day care services are directed. Thus, with costs collected by goal area, it is possible to determine the relative expenditure level by center, or across centers, by major goal area. If these major goal areas are further broken down into specific objectives, and, if the expenditures are gathered accordingly, an even more valuable planning tool can result. A tentative taxonomy to relate normal accounting expenditures to program areas is presented in Appendix C. Again, it should be emphasized that the taxonomy is merely a suggestion. Further study, which would take place during the system design phase, would result in a finalized taxonomy.

It is also important to note the level of aggregation to which the budget and expenditures data must be gathered. As is the case in the Facilities Module, the level from which all data would be gathered is that of the center. Additional budgeted expenditures occurring at the sub-contract and prime sponsor levels would be gathered and attached to the respective sub-contractor or prime sponsor. Thus, the data gathered at the center level would remain segregated and retrievable. In Pennsylvania, for example, some center budgets are currently collapsed into a sub-contract budget which may in turn be collapsed into a prime sponsor budget. This method, particularly since it is not done consistently throughout the State, results in data which is meaningless for the determination of cost/benefits or for comparative analysis.

Among the possible data items which might be included in the Financial Module are:

-identification number

-budget by normal account category

-expenditure by normal account category (year-to-date, current month)

-budget by program category

-expenditure by program category (year-to-date and current month)

-detailed listing of local share source.

An example of the form which might be used to gather this data is given in Appendix B. Possible information which can be obtained from this module includes:

-budget report for any level of specificity or aggregation

-program budget reports for any level of specificity or aggregation

-cost benefit analysis by program category, account category, or center

-comparison of expenditures to budget for such items as accounting categories, program categories, centers, and subcontractors

-cost/unit of service at any level of specificity or aggregation.

As is evident, the kind of information available from this module
-- when used in conjunction with other modules within the system
-- can provide maximum planning and management data in order to increase the efficiency of the allocation of resources to the day care system.

PROGRAM MODULE

The Program Module relates to the specific objectives and goals which are present in day care services. It can be thought of as a system for "management by objectives." A prerequisite for the final design of this module is the identification of these objectives and their measures. Having identified the objectives and measures, data related to specific measurements obtained at any organization level throughout the system can be gathered. These measurements can then be compared to "desirable" measurements to obtain the effectiveness with which program goals and objectives (both impact and management) are being met. This information can be related to the PPBS system outlined in the Financial Module to obtain the cost effectiveness with which various programs are being met.

Possible data items which might be included in the Program Module are:

-coded objectives for given centers (both management and impact)

-acceptable performance measures for these objectives

-current performance measures obtained for the objectives

-relationship of objectives to financial program cost categories.

Among the various kinds of outputs which can be obtained from the module are:

-measures of effectiveness in meeting objectives

-measures of effort in time and dollars to meet the level of performance for specific objectives

-summary data concerning the aggregate effectiveness related to the accomplishment of various objectives

-comparison of specific objectives and effectiveness in meeting these objectives between centers, sub-contractors, and prime sponsors.

COMMUNITY INFORMATION

In order to plan any activity completely, it is necessary that the planner consider not only those data that are endogenous to the system, but also those exogenous data which describe the super-system in which the system operates. It is this end that the Community Information Module is addressed. The planner must be aware of such things as trends in population, economic statistics of families, availability of staff, and educational opportunities. Factors such as these can have a major effect on the success of a given plan of action and therefore must be considered.

For the most part, data to provide the necessary information, already exist in various places; for example, census tract information can provide data on families, age of children, and location of population. Department of Labor Statistics can provide data on employment, education, and training of individuals in the work force, and current economic trends. Other sources, such as local governments, Model Cities, Comprehensive Health Planning agencies, and the R.F. Polk demographic data summaries, can provide data on the availability of schools, hospitals, medical staff, and other support services. It is necessary to determine the various sources which are available and to gather the required data from these sources into one central readily accessible source. The Community Information Module is the central source where the information can be gathered. Much of the data can be thought of as an indication of "supply and demands."

Among the possible data items which can be entered in this module are:

-population figures

-cost of living indices

-number of families within economic groups

-number of children by age group

-support services available

-employment data

-available teachers, aide, support staff

-continuing education availability.

Possible information which can be obtained from this module includes:

-planning information to assist in locating centers

-planning information to assist in determining where additional training programs are needed

-measures of the current eligible population served versus the total eligible population

-estimates of the potential eligible population

-comparisons between areas within a State of dollars/population, potential requirements, and percent of eligible population served.

A PLANNING MODEL AS A LINK IN THE INFORMATION SYSTEM

Management information was previously defined as the information needed to manage, and it was stated that this information must provide for the five functions of management: planning, organizing, staffing, directing, and controlling. The Planning Model is an integral part of the management information system. It assists the decision-maker in two major functions, planning and controlling. In addition, it can assist management in obtaining an understanding of how the organization functions, what interactions are present, and what effect changes in plans and structures will have upon the long-term position of the organization.

As has been implied, the delivery of day care services is a complex task. The many implications of a decision are not always evident to the planner. The planner is forced to make decisions without a complete analysis of all the possible consequences. The Planning Model can help provide awareness of the implications and the long-term effects of decisions in advance of decision making. Robert K. Thompson describes the modeling of a university as allowing the administrator to observe the dynamic behavior of the institution and to test hypotheses concerning its behavior before the actual decision to be implemented is carried through.[10] Emshoff and Sisson state the same premise in a more general way: "It is a view of operations research that model construction, even without absolute optimization, is important because it results in a forward-looking point of view; ...".[11]

Therefore, modeling provides the tool with which an administrator can carry out the planning function of his job. Modeling can also provide for the control

function, because the results of a decision made in real life can be compared to simulated results obtained from the model and, given the model's validity, this comparison can provide a control point for the manager. Thus, the planning model is an important link in the management information chain. It provides a point of view for the system which cannot be provided in any other way. In fact, for a true management information system to be developed, a planning model must be in its design.

The construction of a planning and simulation model is described as the final phase of the total system outlined. This model would operate as an integral part of the information system, using data from the various modules to provide tests of alternative courses of action and strategies. With the addition of this final phase of the system, the results would provide perhaps the most sophisticated total systems capability available within the human service field.

THE DATA GATHERING FLOW

Crucial to the success of such a system is the data gathering phase. Computer systems abound with examples of the adage "garbage in, garbage out." The proper data must be gathered from the proper source. The data must be strictly edited and controlled to assure that they are entered into the system properly, and the definition of each item must be clearly presented in order that the information obtained from the system is not misunderstood.

Also important is the need to ensure that the data in the system are maintained on a regular basis. Procedures must be developed to gather the data at regular intervals and from the same source in order to maintain the integrity of the data in the system; for example, it is likely that facilities, budget, and enrollment data will be gathered at the time proposals for funding are submitted to the state. These data will be gathered and submitted from the center level. Additional facilities and budget data will be gathered from the sub-contractor and prime contractor. The integrity of these data will be maintained by keeping the budget and facilities data separate for each of the levels within the day care services organization. Monthly attendance and enrollment data will be gathered at the center level and entered to the system monthly. From this data certain monthly reports will be generated. A possible data flow is given in Appendix D. The systems design phase of the project would include a complete study of finalized procedures for collecting data.

APPENDIX A - YEARLY SYSTEM OPERATION COST

APPENDIX A

Estimated Operating Costs for Bureau of Child Development Upon Turnover of System

I PERSONNEL

Systems Analyst-programmer	$16,000	
Clerical	8,000	
	$24,000	
Fringe at 12%	2,880	
TOTAL PERSONNEL		$26,880

II CONSUMABLE SUPPLIES

Office Supplies	$1,200	
Forms (See Attached)	1,154	
Computer Paper	1,200	
TOTAL CONSUMABLE SUPPLIES		$3,554

III EQUIPMENT

Computer Terminal	$2,400	
4 File Cabinets	640	
2 Desks & Chairs	840	
TOTAL EQUIPMENT		$3,880

IV COMPUTER COSTS

Data Preparation (See Attached)	$17,665	
Data Entry (See Attached)	11,433	
Data Storage (See Attached)	51,647	
Monthly Operation (See Attached)	25,000	
TOTAL COMPUTER COSTS		$105,745

TOTAL ESTIMATE OF BUREAU COSTS TO OPERATE THE SYSTEM EACH YEAR AFTER TURNOVER.	$140,059

ESTIMATED YEARLY OPERATING COSTS FOR BUREAU OF CHILD DEVELOPMENT

BUDGET BACKUP

ASSUMPTIONS

POPULATION

Number Prime Contractors	67
Number Sub-Contractor - Sponsoring Agent	30
Number of Centers - IV-A	450
Number Children Served	17,000

REQUIRED COMPUTER STORAGE

MODULE	CHAR/RCD	CARDS/RECD	TOTAL CHANGES	RECDS
Children and Family	400	20	10	17,000
Facilities	700	30	22	550
Financial	1,700	20	240	550
Program	600	30	30	450
Community Information	500	30	--	200

I COST OF FORMS REQUIRED

FORM	PARTS	# COPIES YRLY	# COPIES MONTHLY	EST PRICE EA	COST
Enrollment Recd	6	17,000	17,000	.02	680
Center Data	6	450	900	.03	41
Subcontract-Prime Sponsor Data	6	97	200	.03	10
Financial Budget	6	550	100	.20	130
Monthly Attendance	6	---	5,400	.02	108
Invoice	6	---	450	.02	10
Program	6	450	5,400	.03	175
		TOTAL FORMS COSTS			$1,154

II DATA PREPARATION COST

Assumes use of Keypunch Service.

Keypunch

MODULE	# CARDS PER RCD	MONTHLY CDS/RECD	RECD	TOTAL CARDS	HOURS (200/hr)
Children and Family	20	10	17,000	510,000	2,505
Facilities	30	22	550	28,600	143
Financial	20	240	550	143,000	720
Program	30	30	450	27,000	135
Community Information	30	---	200	6,000	30
		TOTAL		714,600	3,533

3533 hrs x $5/hr = $17,665

III DATA ENTRY COSTS

714,600 cards x .016/card processing = $11,433

IV DATA STORAGE COSTS

MODULE	CHARACTERS PER RECD	NUMBER RECDS	TOTAL CHARACTERS
Children and Family	400	17,000	6,800,000
Facilities	700	550	385,000
Financial	1,700	550	935,000
Program	600	450	270,000
Community Information	500	200	100,000
		TOTAL CHARACTERS	8,490,000

Pages of Disk Required

8,490,000 Characters ÷ 3000 Characters/pg = 2,830 pages

2830 pages x .05/page/day x 365 days = 51,647

TOTAL STORAGE COSTS $51,647

V OPERATION COSTS

Assume 1 Terminal operating 4 hours/day to retrieve data, change records, process data, etc.

1 Terminal x 4 hours/day x $25/hr. x 250 days = 25,000

APPENDIX B - DATA COLLECTION FORMS

B-1
Enrollment Record

ADD ____ CHANGE ____ DELETE ____

DPW Case Number _____

Head of Household Information

Soc. Sec. No. _____

Name _____

Street Address _____

Street Address _____

City,St,Zip _____ Zip

Eligibility of Household
Date of Eligibility Determination _____

Type Eligibility Past __ Present __ Potential __
Current Status (Check all applicable categories)

- Receiving AFDC ____
- Former recipient AFDC (within past 2 yrs.) ____
- Eligible for Medical Assistance ____
- Eligible for Earnings Exemption ____
- Participating in WIN training ____
- Participating in other training ____
- Employed ____
- Seeking employment ____
- Absence of Primary Caretaker ____
- Likely to become recipient of welfare services in 5 yrs. ____
- Near dependency levels - group eligibility ____
- At or below income standard for poverty ____

Other Services Received by Household

Food Stamps	____	Meals on Wheels	____
Homemaker Services	____	Aid to the Aged	____
Blind Disability	____	General Assistance	____

Other (specify) _____

Enrollment Information

Center Ident No. _____

Child Name _____

Child Birthdate _____

Type Service

	IV-A	Non IV-A
Infant	____	____
Toddler	____	____
School Age	____	____
Special Needs	____	____

Hours/day enrolled ____

Days/week enrolled ____

Prime Contractor or Sponsor Agency Data

Date _____

ADD __ CHANGE __ DELETE __ County _____

Ident No. _____ Region NE _ SE _ C _ W _

Type Prime Contractor _ Sponsor Agent _ Sub-Contract _

Name of Agency _____

Street Address _____

Street Address _____

Zip

City,St Zip _____

Telephone Area Cd _____ Local _____ Ext _____

Administrator _____

Responsibility (Total number of centers directly under auspices)

Special Needs Centers _____

Non-Special Needs Centers _____

Special and Non-Special Needs Centers _____

Family Day Care Homes _____

Staffing Required (Staff directly employed by agency)

	Full Time Number	Part Time Hours/week	Volunteer Hours/week
Administrative			
Secretary-Clerical			
Program Co-ordinator			
Specialist			
Family Home Operator			
Social Service Worker			
Health Worker			
Food Service Worker			
Other			

CENTER OR FAMILY HOME DATA

Date _____

ADD __ CHANGE __ DELETE __ County _____

Ident No. _____ Region NE _ SE _ C _ W _

Center Name _____

Street Address _____

Street Address _____

City, St Zip _____ Zip

Center Phone Area Cd ____ Local _____ Ext _____

Director _____

Type Facility Center __ Family Home __

Type Served Special Needs __ Non-Special Needs __

Type Prog Child/Centered __ Structured ___ Unstructured ___

Capacity Information

Approved children capacity (based on sq. ft.) _____

No. of separate groups in center _____

Hrs/day available for Title IV-A and non-Title IV-A children in the center (i.e. no. of children x hrs/day open)

	IV-A	Non IV-A		IV-A	Non-IV-A
Infant	_____	_____	Pre-School	_____	_____
Toddler	_____	_____	School Age	_____	_____

Staffing Required (Staff directly employed by center)

	Full Time Number	Part Time Hours/week	Volunteer Hours/week
Administrative	_____	_____	_____
Clerical	_____	_____	_____
Group Supervisor	_____	_____	_____
Asst. Group Supervisor	_____	_____	_____
Group Aides	_____	_____	_____
Social Service Worker	_____	_____	_____
Health Worker	_____	_____	_____
Food Service Worker	_____	_____	_____
Other	_____	_____	_____

Schedule of Service

	From	To	Hrs		From	To	Hrs
Mon.	_____	_____	___	Fri.	_____	_____	___
Tues.	_____	_____	___	Sat.	_____	_____	___
Wed.	_____	_____	___	Sun.	_____	_____	___
Thurs.	_____	_____	___				

Monthly Attendance Summary

Ident No. _____

Period (Mon/Yr) _____ Date of Report _____

Center Name _____

Total days operated during month ___

Total hours operated during month (days x hrs/day) ___

Total Student Hours Capacity (no. student hrs/day x no. days)

	IV-A	Non IV-A		IV-A	Non IV-A
Infant	_____	_____	Pre-School	_____	_____
Toddler	_____	_____	School Age	_____	_____

Total Student Hours Served (enter from Attendance Record)

	IV-A	Non IV-A		IV-A	Non. IV-A
Infant	_____	_____	Pre-School	_____	_____
Toddler	_____	_____	School Age	_____	_____

Number of children applying for service during month _____

Number of Children Not Accepted for Service During month by Reason

No Vacancy	_____	Ineligible for Title IV	_____
Child too Young or Old	_____	Family Cant Meet Cost	_____
Hours Not Suitable	_____	Other Reasons	_____
Distance too Great	_____		

Number of children added to roles during month _____

Number of children deleted from roles during month _____

Number of children added to waiting list during month _____

Number of children deleted from waiting list during month _____

Total Budget Summary

F.Y. 19__ - 19__

Ident _____ Date _____

	Local Share	State Share	Total Budget	Dollars Allocated to Specific Services: Admin	Child Service	Food Service	Trnspt	Health	Social Service	Maintce	Family Home
Personnel											
Fringe Benefits											
Consultant											
Contract Services											
Consumable Supplies											
Travel											
Equipment and Furniture											
Space											
Other Costs											
DPW Administrative Costs											
Total Budget											

Composition of Local Share

APPENDIX C - PROGRAM BUDGET TAXONOMY

ADMINISTRATION

Personnel

Accountant
Assistant Director
Bookkeeper
Center Director
Child Welfare Executive
Clerical
Community Coordinator
Comptroller
Coordinator of MR Services
Executive Director
Intake Worker
Parent/Community Inv. Spec.
Program Director
Receptionist
Research Assistant
Secretary
Volunteer Coordinator
4-C Planner

Consultant and Contract Services

Audit
Automatic Data Processing
Bond
Bookkeeping & Accounting Services
Career Development
Controller Services
Inservice
Non-Credit Workshop
Parent Education
Payroll
Staff Training
Statistical Analysis
Tuition Fees

Travel

Auto Rental
Central Staff Conferences
Insurance
Local Parent Travel
Out-of-Town Conferences
Parent Conference Travel
Per Diem
Staff Travel
Training & Consultation

Consumable Supplies

Book Materials
Emergency Funds
Miscellaneous
Office Supplies
Reference Material
Uniforms

Equipment and Furniture

Equipment Rental
Equipment Repair
Office Furniture
Office Machines & Equipment

Space

Office Rental
Renovation for Office Space
Space-Rental for Inservice Training

Other Costs

Administration
Audit
Baby-Sitting (Staff)
Bond
Child Development Council Meetings
Conference Fees
Computer
Dues & Membership
Equipment Insurance
Liability Insurance
Miscellaneous
Overhead
Postage
Printing
Subscription
Telephone

CHILD SERVICES

Personnel

Assistant Group Supervisor
Assistant Teacher
CAC Field Supervisor
Child Care Worker
Child Development Coordinator
Counselor
Day Care Supervisor
Education Director
Education Specialist
Educational Coordinator
Educational Supervisor
Group Aide
Group Supervisor
Head Teacher
Matrons
Occupational Therapist
Research Specialist
Speech Therapist
Substitute Teacher
Teacher Aide
Work Study Student

Consultant and Contract Services

Diagnosis & Assessment
Early Childhood Consultant
Educational Consultant
Pool & Gym Use
Program Development
Slot Purchases
Speech Therapist
Substitute Teachers
Summer Camp
Tutoring Services

Travel

Consumable Supplies

Activity Supplies
Blankets
Center Program Supplies
Instructional Supplies
Parent Fund
Printing & Testing Supplies
Sleeping Supplies
Testing Supplies
Toddler Diaper Service

Equipment and Furniture

Audio-Visual Equipment
Class Room Equipment
Equipment (Not Specified)
Equipment Replacement
Indoor Equipment
Outdoor Equipment
Program Equipment
Teacher's Lounge

Space

Center Rental
Installation of Outside Equipment
Miscellaneous Space
Renovations for Center
Utilities

Other Cost

Admission Charges for Field Trips
Baby-Sitting (Parents)
Laundry
Oral Selection
Parent Activities
Parent Programs
Toddler Diaper Service
Volunteer Services Costs

FOOD SERVICES

Personnel

Cook
Cook Aids
Head Cook
Matrons (Assistant Cook)
Nutritionist
Nutrition Coordinator

Consultant and Contract Services

Travel

Consumable Supplies

Food
Kitchen Supplies

Equipment and Furniture

Kitchen Equipment

Space

Other Cost

TRANSPORTATION

Personnel

Bus Matrons
Driver
Driver Aide

Consultant and Contract Services

Travel

Bus Fare
Children Transportation
Emergency Child Transportation
Field Trips
Parent Field Trips
Vehicle Maintenance (Gas & Oil)

Consumable Supplies

Equipment and Furniture

Auto
Minibus

Space

Other Cost

HEALTH

Personnel

Health Assistant
Health Coordinator
Nurse
Psychologists

Consultant and Contract Services

Dental Exams
Health Consultant
Medical Exams & Testing
Pediatrician
Psychological Consultant
Psychological Testing

Travel

Consumable Supplies

Dental Supplies
First Aid Kits
Medical Supplies

Equipment and Furniture

Space

Other Costs

SOCIAL SERVICES

Personnel

Case Aide
Case Worker
Community Aide
Outreach Worker
Parent Activities Organizor
Parent Aide
Parent Coordinator
Social Services Supervisor
Social Worker
Social Worker Aide

Consultant and Contract Services

Case Workers
Family Counseling

Travel

Consumable Supplies

Equipment and Furniture

Space

Other Cost

MAINTENANCE

Personnel

Janitor

Consultant and Contract Services

Janitorial Services

Travel

Consumable Supplies

Housekeeping Supplies
Janitorial Supplies

Equipment and Furniture

Center Equipment Repair

Space

Alterations
Building Maintenance

Other Costs

Maintenance Supplies

FAMILY HOME

Personnel

Educational Home Aides
Family Day Care Mothers

Supervisor Educational Home Aides

Consultant and Contract Services

Family Home Payments
Training for Family Day Care Mothers

Travel

Consumable Supplies

Equipment and Furniture

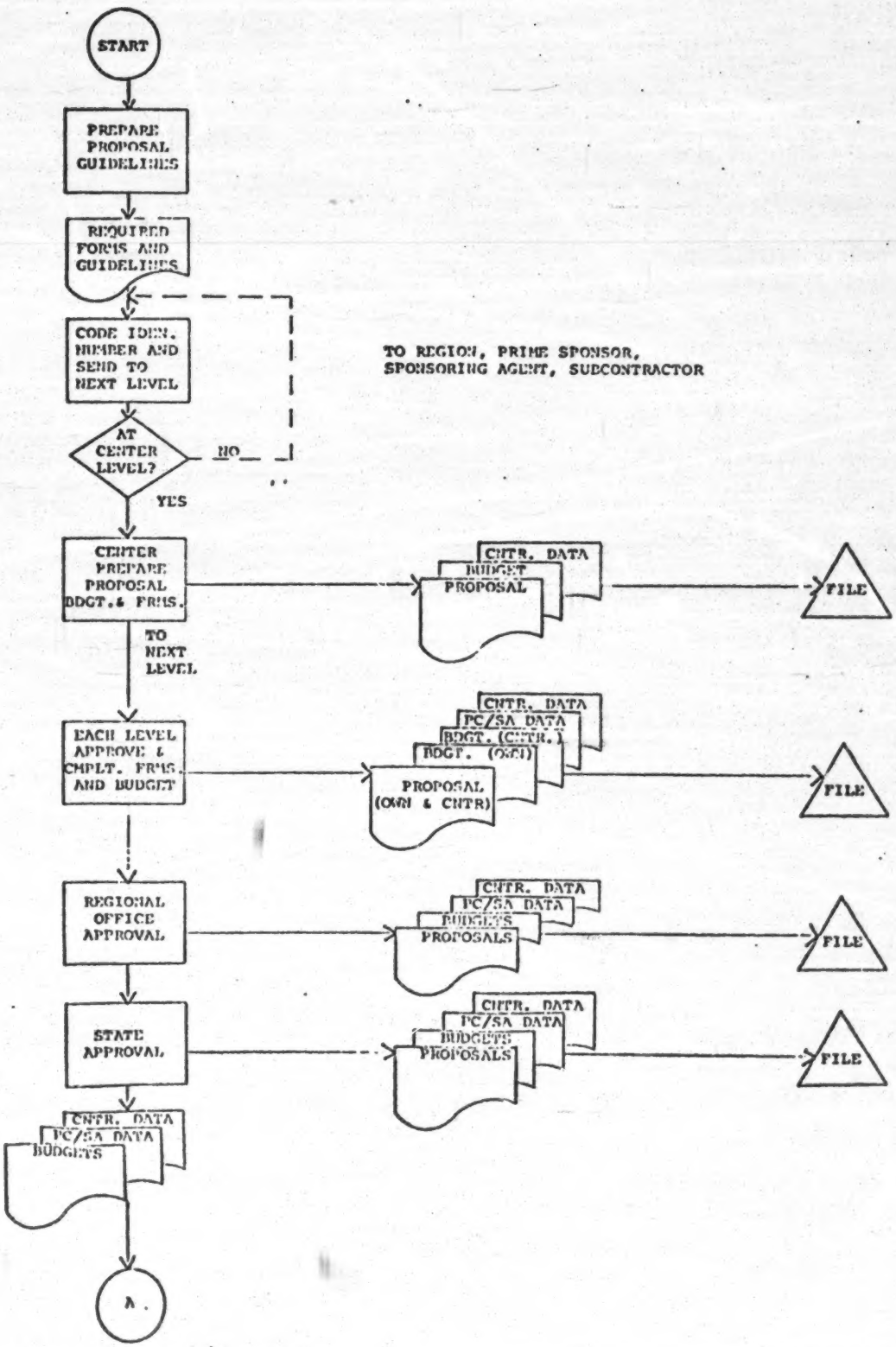
Space

Other Costs

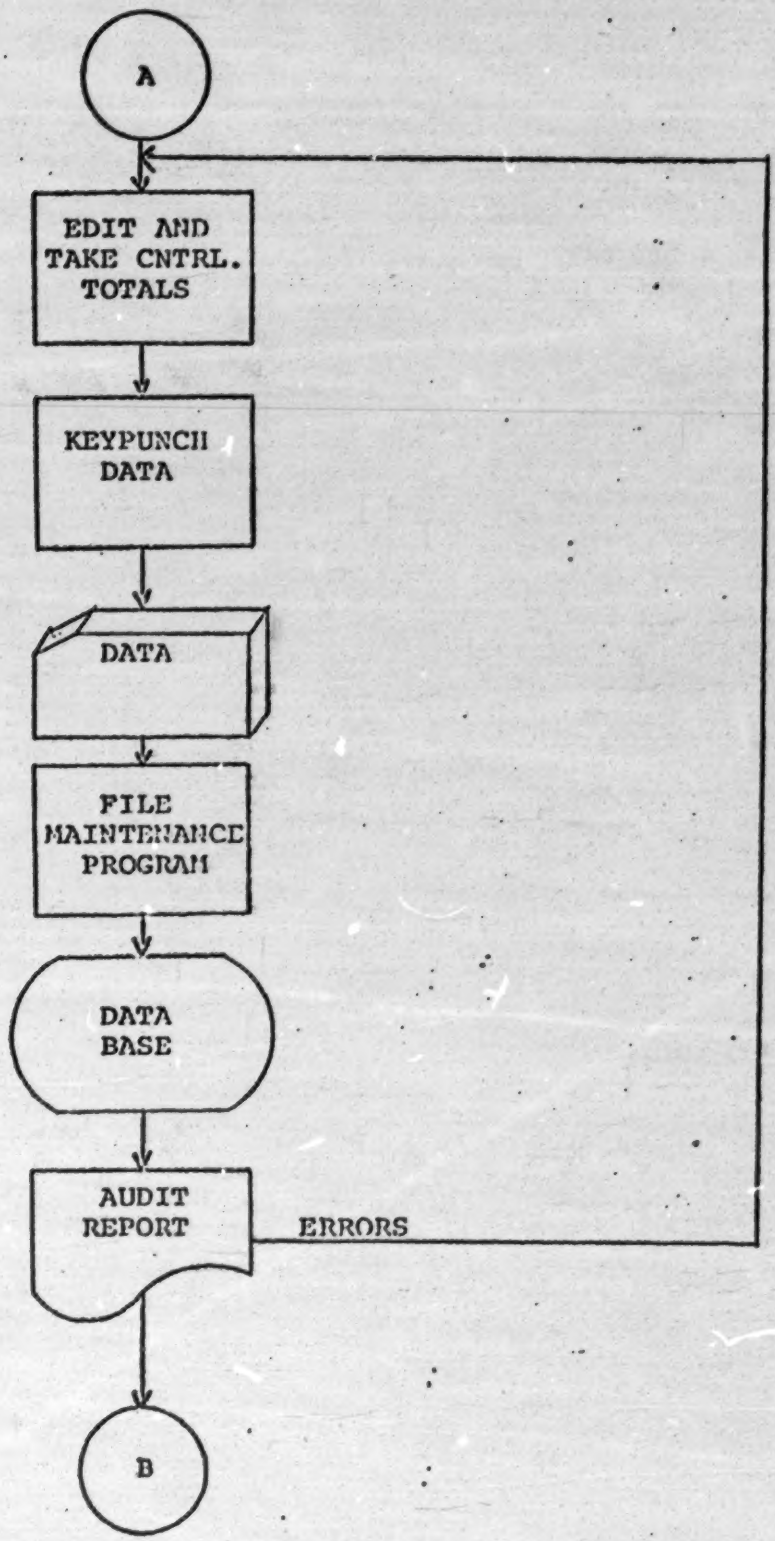
Board for Family Day Care Home

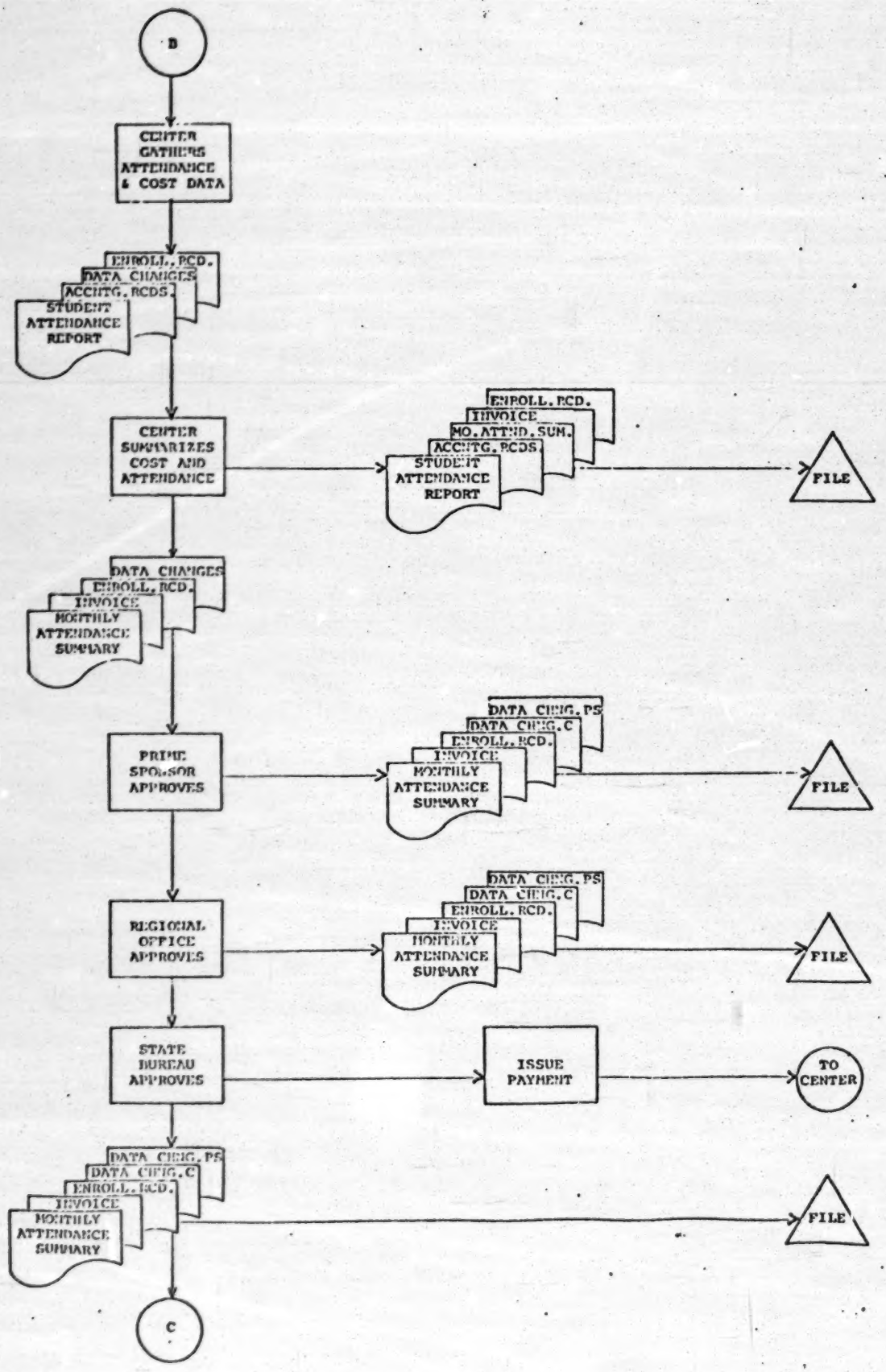
APPENDIX D - SYSTEM DATA FLOW

DATA FLOW
PROPOSALS

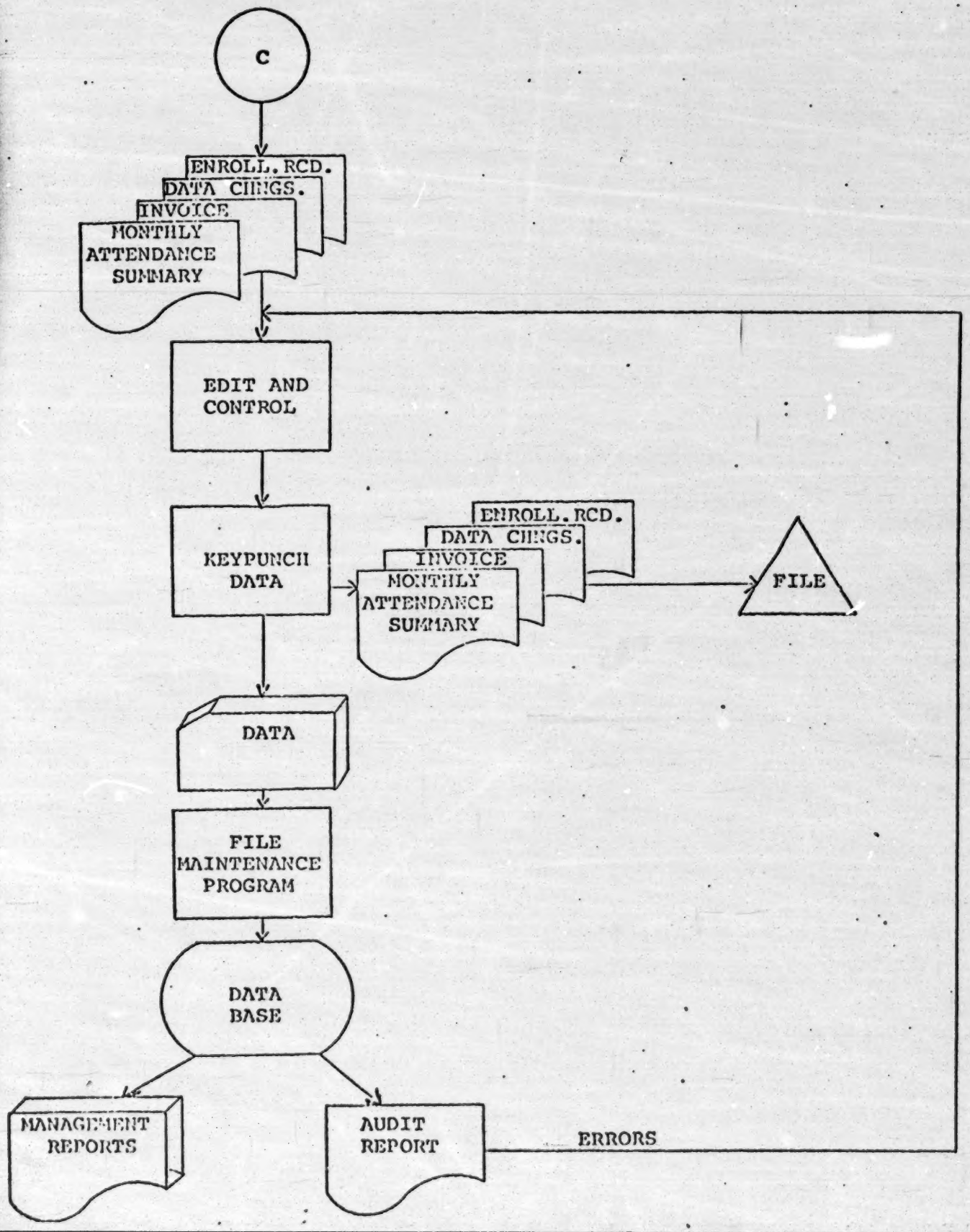


DATA FLOW PROPOSALS



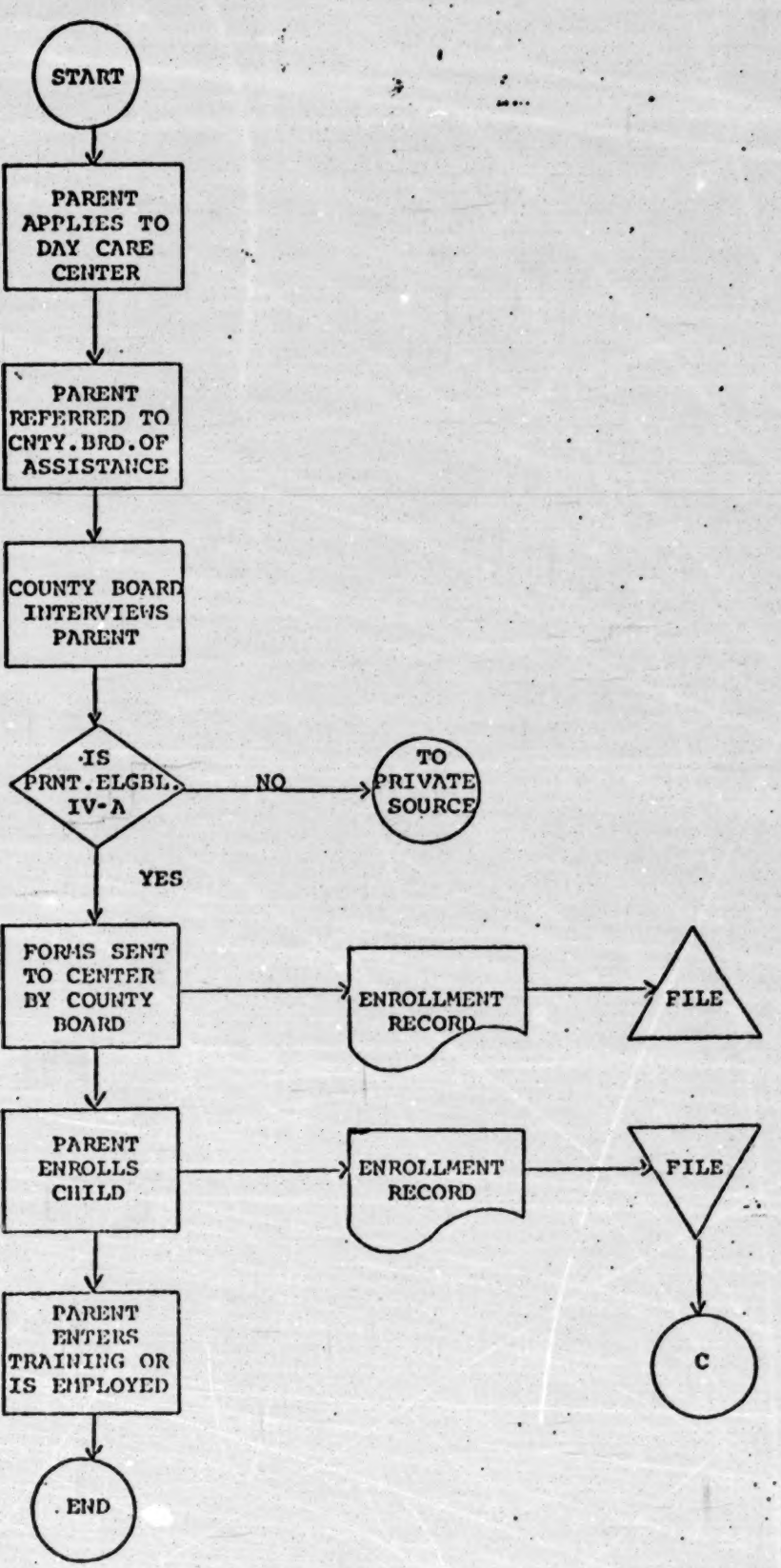

D
CENTER GATHERS ATTENDANCE & COST DATA
ENROLL. RCD.
DATA CHANGES
ACCNTG. RCDS.
STUDENT ATTENDANCE REPORT
CENTER SUMMARIZES COST AND ATTENDANCE
ENROLL. RCD.
INVOICE
MO. ATTND. SUM.
ACCNTG. RCDS.
STUDENT ATTENDANCE REPORT
FILE
DATA CHANGES
ENROLL. RCD.
INVOICE
MONTHLY ATTENDANCE SUMMARY
PRIME SPONSOR APPROVES
DATA CHNG. PS
DATA CHNG. C
ENROLL. RCD.
INVOICE
MONTHLY ATTENDANCE SUMMARY
FILE
REGIONAL OFFICE APPROVES
DATA CHNG. PS
DATA CHNG. C
ENROLL. RCD.
INVOICE
MONTHLY ATTENDANCE SUMMARY
FILE
STATE BUREAU APPROVES
ISSUE PAYMENT
TO CENTER
DATA CHNG. PS
DATA CHNG. C
ENROLL. RCD.
INVOICE
MONTHLY ATTENDANCE SUMMARY
FILE
C

DATA FLOW
MONTHLY DATA



DATA FLOW

ADMISSION TO DAY CARE



APPENDIX E - PROTOTYPE OF RETRIEVAL SESSION

APPENDIX E

A SAMPLE RETRIEVAL SESSION

(Note - Computer output is in upper case, user input is in lower case)

```
SYSTEM?
.run dcpmbs.ret
BEGIN DAY CARE RETRIEVAL SESSION
TODAY IS MONDAY, APRIL 16, 1973
TIME IS 9:30 AM
ENTER USER PASSWORD
******
ENTER RETRIEVAL PARAMETERS IN FORM:

   MNEMONIC RELATION VALUE, MNEMONIC RELATION VALUE, .....

budget  100000, region = n.e.
```

(Note: Request is asking for all centers in North East Region whose budget is greater than $100,000)

```
IF OTHER PARAMETERS ENTER IN SAME FORM ELSE, ENTER NONE
none

SPECIFY DATA YOU WISH TO PRINT IN THE ORDER YOU WISH TO PRINT IT IN FORM:

   MNEMONIC, MNEMONIC, .......
   name,budget,expense,enroll,expense/enroll
```

(Note: Request is asking to print center name, center budget, center expense to date, center enrollment and the dollars spent/ child currently enrolled)

```
IF OTHER DATA ENTER IS SAME FORM ELSE ENTER NONE
none

ENTER LEAD HEADING
centers in northeast region with budget greater than 100,000 dollars

ENTER OTHER HEADINGS
center name, budget, expense, enrollment, expense/enrolled

ENTER TOTALS REQUIRED
one
```

DATE 04/16/73 ITEM 09:42

CENTERS IN NORTHEAST REGION WITH BUDGET GREATER THAN 100,000 DOLLARS

CENTER NAME	BUDGET	EXPENSE	ENROLLMENT	EXPENSE/ENROLLMENT
ATHENS DAY CARE	121,960	95,430	40	2386
ST. THOMAS	340,500	265,460	170	2413
HI HO CHILD CARE	153,000	110,950	33	3362
TOM THUMB	105,600	82,350	28	2941

END OF REQUEST
ANY OTHER REQUEST? ENTER YES OR NO
no
END OF SESSION 04/16/73 09:47

REFERENCES

REFERENCES

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